

ANALYSIS OF ECOLOGICAL RISK ON THE TERRITORY OF BELARUS AFTER CHERNOBYL ACCIDENT

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Data on radiation contamination of several regions of Belarus have been analyzed, chemical impact of industrial emissions on ecological situation have been studied, real data on cancer diseases of population have been compared with the prognostic data, a mathematical model accounting for biological modeling results has been developed. A complex assessment of radiochemical state of 6 districts of Gomel region and 4 districts of Mogilev region has been carried out. Prognostic values for radiation and chemical risks have been obtained. A mathematical model for biological effects of integral action of specific doses of ionizing radiation and chemical carcinogen have been developed. When analyzing radiation risk, the methodology of linear risk assessment proposed by ICRP have been used. When analyzing chemical risk the EPA methodology modified by the author to account for domestic conditions has been used. The elements of correlation analysis and mathematical statistics have been used for modeling biological effects of integral action of radiation and factors of nonradiation origin. ArcViewGIS (ver. ArcView 3.0) software have been used for creation of GIS segments. The radiation consequences of Chernobyl Accident can not be taken as a basic source for description of present ecological state of Belarus. Chemical risk and risk of complex effects should be the main goals of researches of ecological safety of Belarus.